- A strategy profile is an assignment of strategies for each player
- A pure strategy is discrete: either north or south for example
- A mixed Nash equilibrium is the best outcome for both players when they're using mixed strategies (where the strategy is a probability of going north or south rather than a discrete north or south choice).
- A simplex is when each component adds to 1, e.g. $x + y = 1 \leftarrow 2$ strategy game.
- σ is a mixed profile
- $x = f(x)$ is a fixpoint
- Brouwer fixpoint theorem
- Kakutani fixpoint theorem
- Every n-player game has at least one Nash equilibrium.
- Sperner's Lemma:
  - Pick an arbitrary set of $n - 1$ colors (let's say red and blue)
  - Count red-blue edges after slicing simplex along cutlines
  - Count exterior edges (call it a)
  - Count interior edges twice (call it b)
  - Total count is $a + 2b$